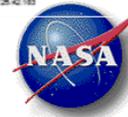
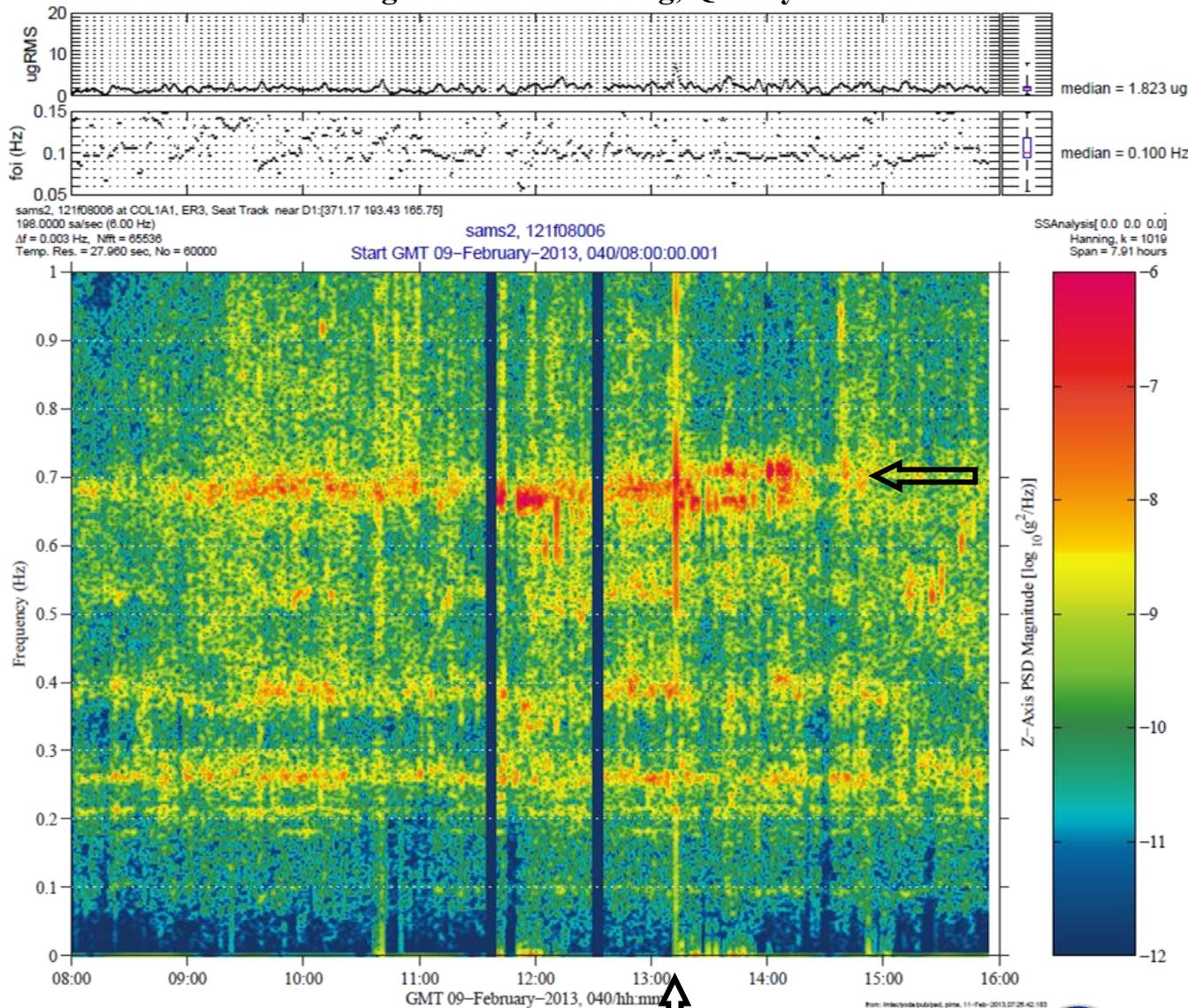


Progress 48P Undocking, Qualify



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Description	
Sensor	121f08 198 sa/sec (6 Hz)
Location	COL1A1, ER3, Seat Track
Plot Type	spectrogram

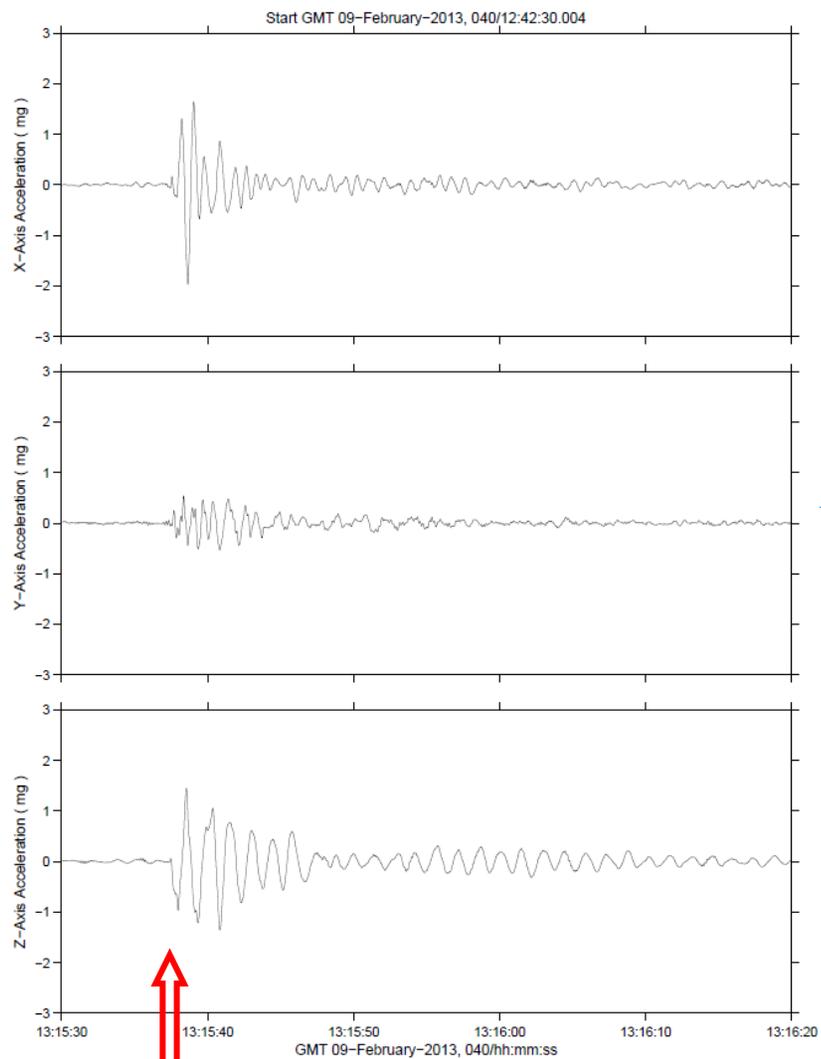
Notes:

- The MER console log shows “the Progress 48P vehicle successfully undocked from the ISS Russian Segment Docking Compartment 1 docking port at GMT 40/13:15:22 after the command to open the vehicle hooks was issued at 40/13:12:30”. **Note:** the MER console log's undocking time was about 15 seconds before SAMS recorded an impulse event in all 3 labs, these acceleration measurements show that the event actually took place closer to about GMT 13:15:37.
- Note from the black arrows on this spectrogram that the undocking event caused a noticeable impulse at undock time with ringing at about 0.7 Hz after the event.

Regime:	Vibratory
Category:	Vehicle
Source:	Progress Undocking

Progress 48P Undocking, Quantify in COL

sams2, 121f08006 at COL1A1, ER3, Seat Track near D1:[371.17 193.43 166.75]
 198.0000 sa/sec (6.00 Hz) SAMS2, 121f08006, COL1A1, ER3, Seat Track near D1, 6.0 Hz (198.0 s/sec) SSAnalysis[0.0 0.0 0.0]



X-Axis

Y-Axis

Z-Axis

Description	
Sensor	121f08 198 sa/sec (6 Hz)
Location	COL1A1, ER3, Seat Track
Plot Type	acceleration vs. time

Notes:

- The impulsive disturbance from the undocking event was registered with vector magnitude acceleration as follows in the 3 labs (up to 6 Hz):

Sensor (LAB)	a (mg)
121f03 (USL)	1.93
121f05 (JEM)	1.88
121f08 (COL)	2.26

- Note from the 3 subplots on this page (one each for the X-, Y-, and Z-axis) that the Y-axis registered as the smallest component. This was true to varying degrees for all 3 labs.



Acceleration Measurements Program

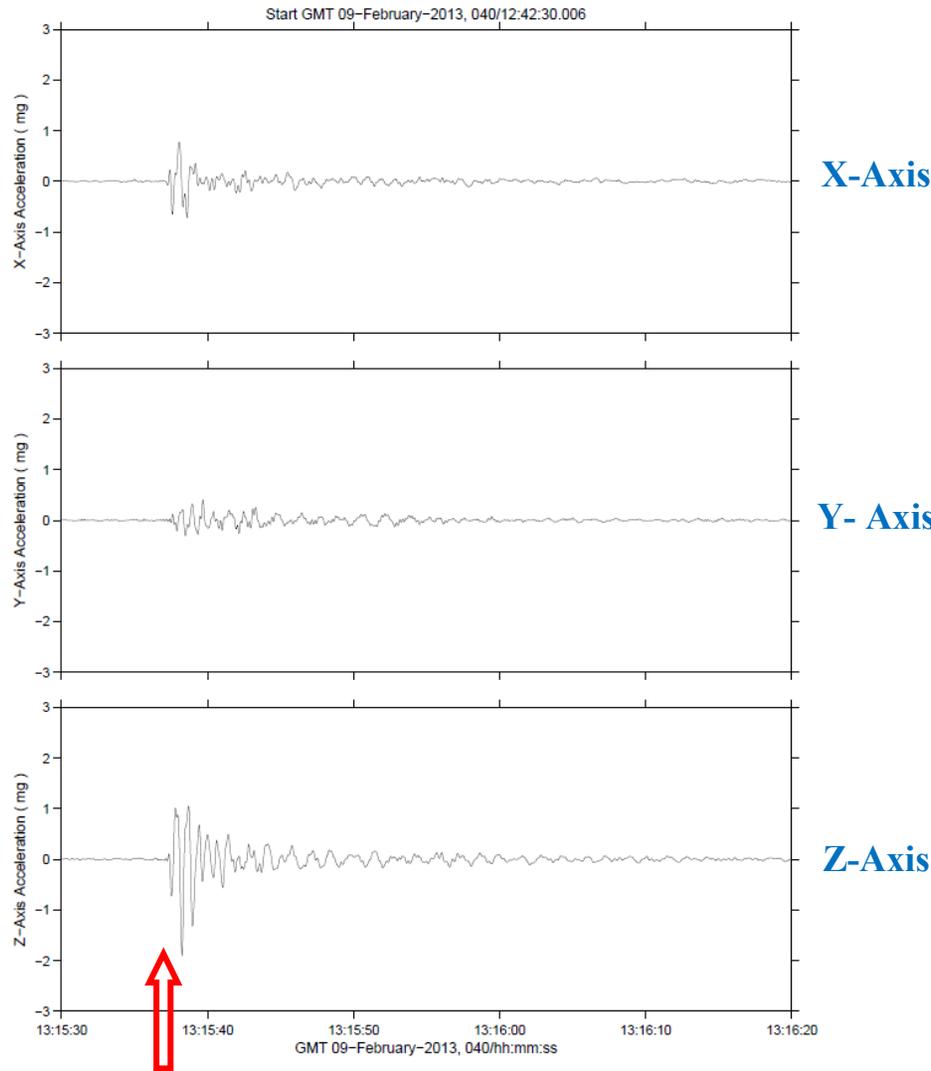


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Regime:	Vibratory
Category:	Vehicle
Source:	Progress Undocking

Progress 48P Undocking, Quantify in USL

sams2, 121f03006 at LAB101, ER2, Lower Z Panel [191.54 ~40.54 135.25]
 142.0000 sa/sec (6.00 Hz) SAMS2, 121f03006, LAB101, ER2, Lower Z Panel, 6.0 Hz (142.0 s/sec) SSAnalysis[0.0 0.0 0.0]



Description	
Sensor	121f03 142 sa/sec (6 Hz)
Location	LAB101, ER2, Lower Z Panel
Plot Type	acceleration vs. time

Notes:

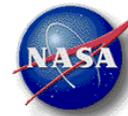
- The impulsive disturbance from the undocking event was registered with vector magnitude acceleration as follows in the 3 labs (**up to 6 Hz**):

Sensor (LAB)	a (mg)
121f03 (USL)	1.93
121f05 (JEM)	1.88
121f08 (COL)	2.26

- Note from the 3 subplots on this page (one each for the X-, Y-, and Z-axis) that the Y-axis registered as the smallest component. This was true to varying degrees for all 3 labs.



Acceleration Measurements Program

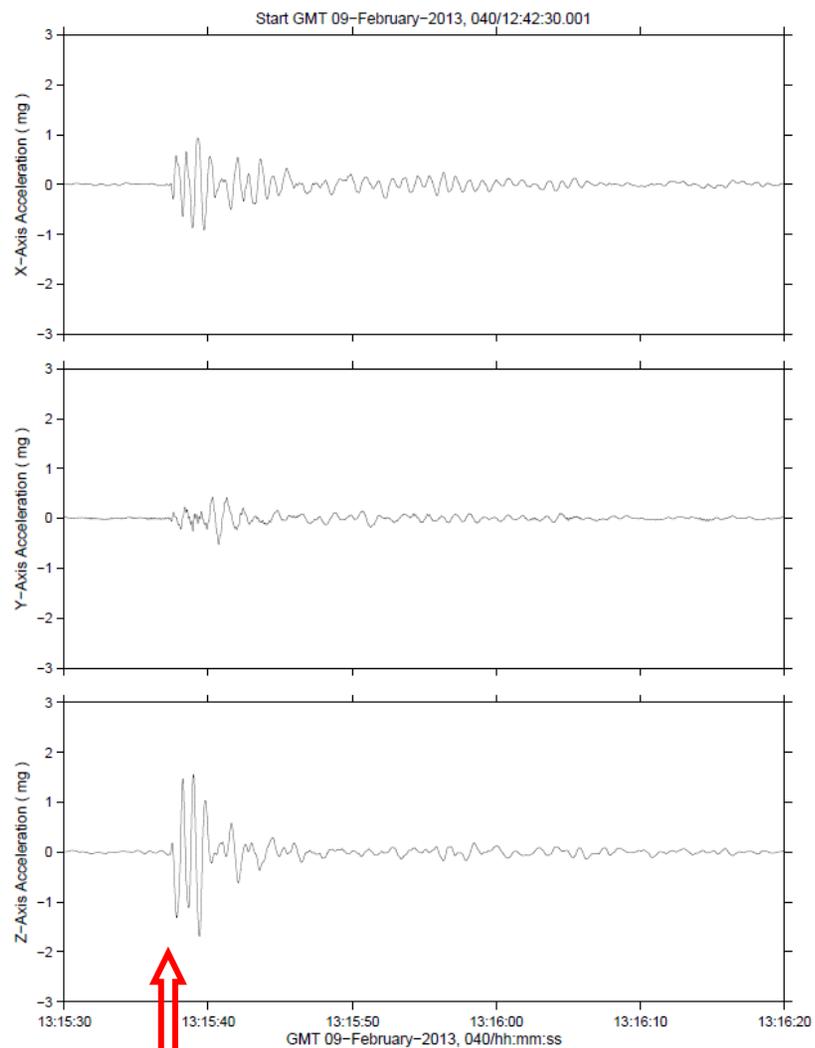


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Regime:	Vibratory
Category:	Vehicle
Source:	Progress Undocking

Progress 48P Undocking, Quantify in JEM

sams2, 121f05006 at JPM1F5, ER4, Drawer 2 [466.80 -292.06 214.56]
 142.0000 sa/sec (6.00 Hz) SAMS2, 121f05006, JPM1F5, ER4, Drawer 2, 6.0 Hz (142.0 s/sec) SSAnalysis[0.0 0.0 0.0]



X-Axis

Y- Axis

Z-Axis

Description	
Sensor	121f05 142 sa/sec (6 Hz)
Location	JPM1F5, ER4, Drawer
Plot Type	acceleration vs. time

Notes:

- The impulsive disturbance from the undocking event was registered with vector magnitude acceleration as follows in the 3 labs (**up to 6 Hz**):

Sensor (LAB)	a (mg)
121f03 (USL)	1.93
121f05 (JEM)	1.88
121f08 (COL)	2.26

- Note from the 3 subplots on this page (one each for the X-, Y-, and Z-axis) that the Y-axis registered as the smallest component. This was true to varying degrees for all 3 labs.



Acceleration Measurements Program



Glenn Research Center

Regime:	Vibratory
Category:	Vehicle
Source:	Progress Undocking

Progress 48P Undocking Ancillary Info



- Progress is an unmanned Russian re-supply vehicle. After undocking, the vehicle's trajectory will cause it to burn up due to friction from the Earth's atmosphere.
- The figure to the left is a screenshot that shows a view of the ISS from the Progress 48P as it departs.
- The image below shows spacecraft when it first approached the ISS.



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